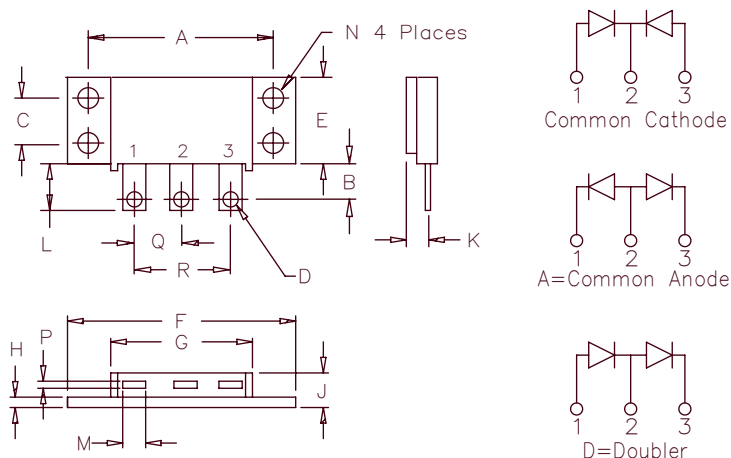


Schottky Powermod

FST16090 — FST160100



Notes:
Baseplate: Nickel plated copper;
electrically isolated
Pins: Nickel plated copper

| | Dim. Inches | | Millimeters | | Notes |
|---|-------------|-------|-------------|-------|-----------|
| | Min. | Max. | Min. | Max. | |
| A | 1.995 | 2.005 | 50.67 | 50.93 | |
| B | 0.300 | 0.325 | 7.62 | 8.26 | |
| C | 0.495 | 0.505 | 12.57 | 12.83 | |
| D | 0.182 | 0.192 | 4.62 | 4.88 | Dia. |
| E | 0.990 | 1.010 | 25.15 | 25.65 | |
| F | 2.390 | 2.410 | 60.71 | 61.21 | |
| G | 1.500 | 1.525 | 38.10 | 38.70 | |
| H | 0.120 | 0.130 | 3.05 | 3.30 | |
| J | --- | 0.400 | --- | 10.16 | |
| K | 0.240 | 0.260 | 6.10 | 6.60 | to Lead Q |
| L | 0.490 | 0.510 | 12.45 | 12.95 | |
| M | 0.330 | 0.350 | 8.38 | 6.90 | |
| N | 0.175 | 0.195 | 4.45 | 4.95 | Dia. |
| P | 0.035 | 0.045 | 0.89 | 1.14 | |
| Q | 0.445 | 0.455 | 11.30 | 11.56 | |
| R | 0.890 | 0.910 | 22.61 | 23.11 | |

TO-249

| Microsemi Catalog Number | Working Peak Reverse Voltage | Repetitive Peak Reverse Voltage |
|-----------------------------|---------------------------------|------------------------------------|
| FST16090* | 90V | 90V |
| FST160100* | 100V | 100V |

*Add the Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- V_{RRM} — 90 to 100 Volts
- High Surge Capacity
- Reverse Energy Tested
- ROHS Compliant

Electrical Characteristics

| | | |
|---------------------------------------------|----------------------|--------------------------------------------------------------------------------|
| Average forward current per pkg | $I_{F(AV)}$ 160 Amps | $T_C = 120^\circ\text{C}$, Square wave, $R_{\theta JC} = 0.5^\circ\text{C/W}$ |
| Average forward current per leg | $I_{F(AV)}$ 80 Amps | $T_C = 120^\circ\text{C}$, Square wave, $R_{\theta JC} = 0.9^\circ\text{C/W}$ |
| Maximum surge current per leg | I_{FSM} 1200 Amps | 8.3 ms, half sine $T_J = 175^\circ\text{C}$ |
| Max repetitive peak reverse current per leg | $R(OV)$ 2 Amps | $f = 1 \text{ KHz}$, 25°C , $1\mu\text{sec}$ Square wave |
| Max peak forward voltage per leg | V_{FM} .75 Volts | $I_{FM} = 80\text{A}$: $T_J = 175^\circ\text{C}^*$ |
| Max peak forward voltage per leg | V_{FM} .96 Volts | $I_{FM} = 80\text{A}$: $T_J = 25^\circ\text{C}^*$ |
| Max peak reverse current per leg | I_{RM} 30 mA | V_{RRM} , $T_J = 125^\circ\text{C}^*$ |
| Max peak reverse current per leg | I_{RM} 2 mA | V_{RRM} , $T_J = 25^\circ\text{C}$ |
| Typical junction capacitance per leg | C_J 1500 pF | $V_R = 5.0\text{V}$, $T_J = 25^\circ\text{C}$ |

*Pulse test: Pulse width 300 μsec , Duty cycle 2%

Thermal and Mechanical Characteristics

| | | |
|--------------------------------------|-----------------|--------------------------------------------|
| Storage temp range | T_{STG} | -55°C to 175°C |
| Operating junction temp range | T_J | -55°C to 175°C |
| Maximum thermal resistance per leg | $R_{\theta JC}$ | 0.9°C/W Junction to case |
| Max thermal resistance per pkg. | $R_{\theta JC}$ | 0.5°C/W Junction to case |
| Typical thermal resistance (greased) | $R_{\theta CS}$ | 0.1°C/W Case to sink |
| Mounting torque | | 15 — 20 inch pounds |
| Weight | | 2.5 ounces (71 grams) typical |

FST16090 — FST160100

Figure 1
Typical Forward Characteristics

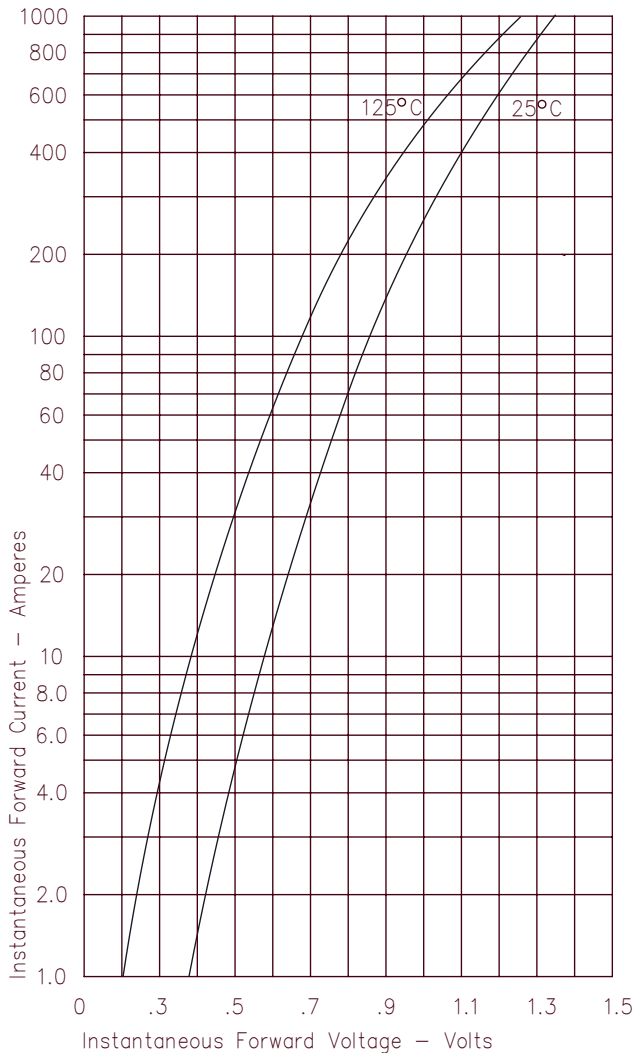


Figure 3
Typical Junction Capacitance

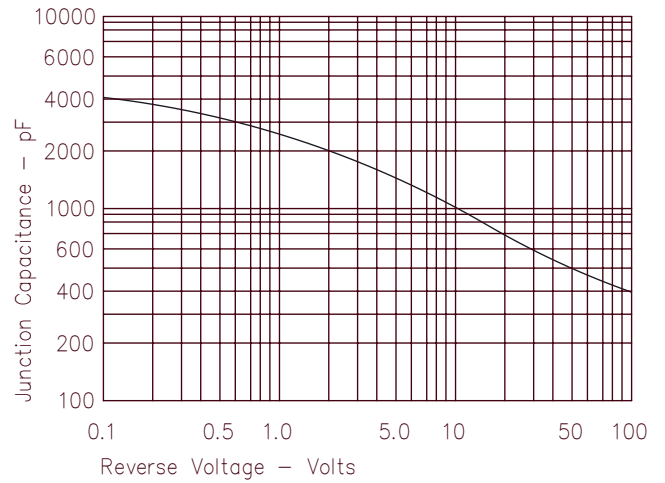


Figure 4
Forward Current Derating

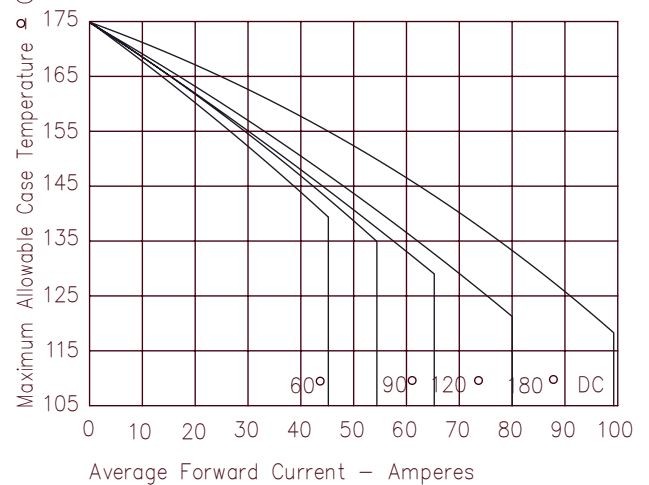


Figure 2
Typical Reverse Characteristics

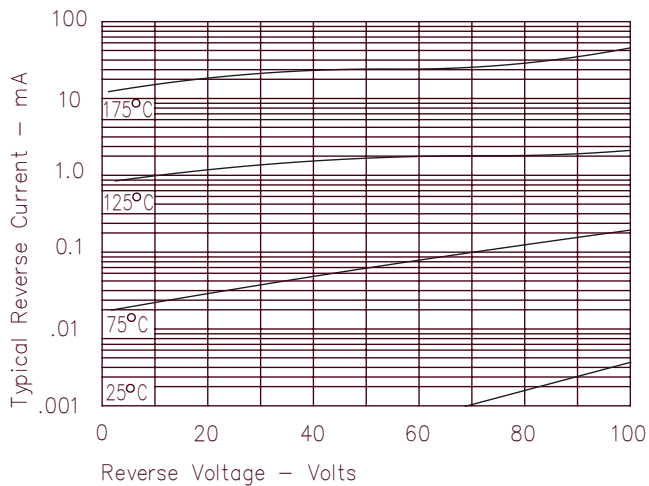
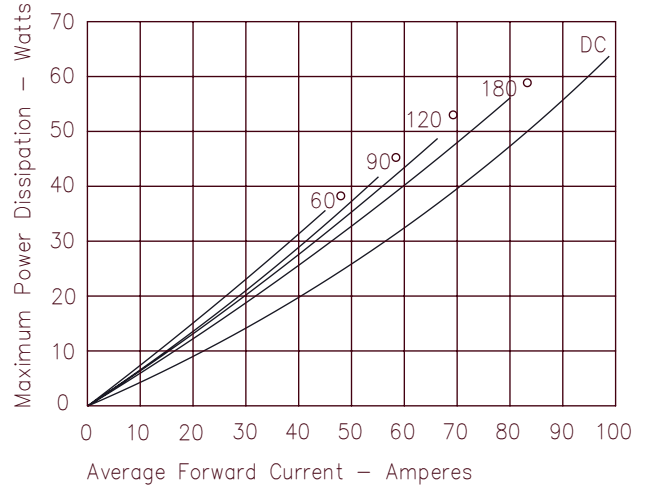


Figure 5
Maximum Forward Power Dissipation



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